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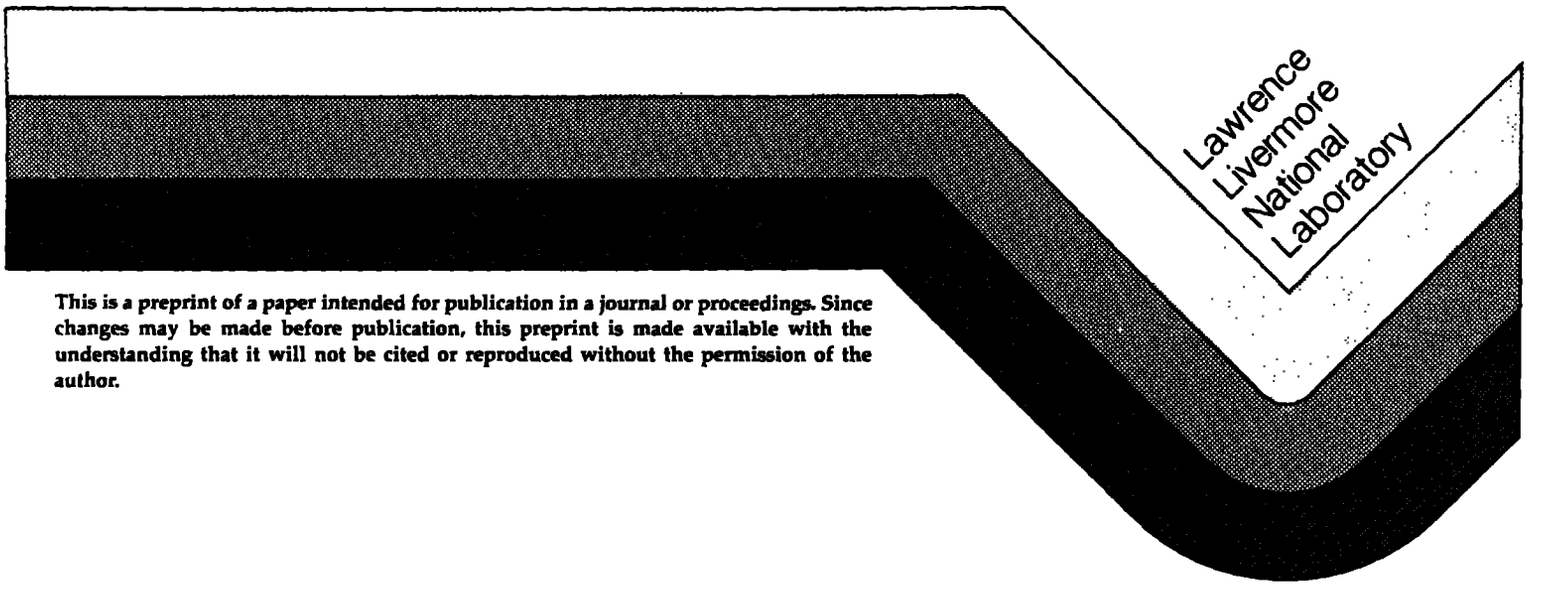

NUCLEAR CHEMISTRY AT ROCHESTER

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There is a very long tradition of nuclear chemistry at the University of Rochester, dating from the early 1950s and the program of Professor E. O. Wiig, which centered on the 130 "synchrocyclotron." The Chemistry Department was very small in those days, numbering only 12 faculty members as late as 1960. The long standing tradition in the department was to hire at the instructor level and promote from within. They usually didn't promote, and that's probably why the department was so small. However, in 1967, the unique credentials of John Huizenga came to the attention of the Chemistry Department, and it was very quickly decided to do the unthinkable; to offer a senior level appointment, probably the first in a generation or more for the department.

This stroke of good judgment was followed by a stroke of good luck, as John accepted and became Professor of Chemistry and Physics from 1967-78, and Tracy H. Harris Professor of Chemistry and Physics from 1978 to the present. The university administration deserves recognition for keeping John at Rochester these 19 years; for as many here know, many challenging and exciting job offers have been extended to John during his tenure at Rochester in an attempt to lure him to other pastures.

John's professional contributions are broad and multifaceted, just as his interests within nuclear science have spanned a broad range of subjects. The thoroughness and depth with which he approaches science are also reflected across the whole spectrum of areas of his accomplishments. To cover all these achievements credibly in this short presentation would be very difficult. The topics would include influence on the national and international science community as a member of international delegations, on a half dozen committees and panels of the National Academy of Sciences, as a member of visiting and

review committees of many national laboratories and universities - and I could go on considerably longer on just this topic.

Next, there is the subject of impact on the University of Rochester. This too has been considerable, including serving in the University Senate and on numerous university-wide committees. There are then the subjects I would devote my main attention to, impact on the Department of Chemistry and the Nuclear Structure Laboratory, although Harry Gove has given one perspective on the latter.

John has always been one of the department's finest teachers on both the graduate and undergraduate levels. His students in Introductory Chemistry really had to work to keep up with the fast pace and high information content of the lectures. But they very much appreciated the quality of the course they were getting, and that the professor clearly considered their education to be very important. It was very clear that John was held in extremely high regard by his undergraduate students.

A keen interest in graduate education was also always present, and John did much on committees concerned with this topic including making strong graduate recruitment efforts. And, of course, he has had many a student complete their Ph.D. degree under his supervision; many of whom are with us today on this festive occasion.

I must confess that something that remains most vivid in my memory is Chemistry Department faculty meetings on the one hand, and John on the other. The various departmental subgroups certainly were all keenly aware of the reasons that scarce departmental resources should be awarded, e.g., to purchase equipment necessary to their research programs. Once in a great while, these presentations became quite passionate and heated. John just sat there cooly, trying always to judiciously use the criterion of the overall long term good of the department and impact on the department as a whole to make these hard decisions. He showed impartiality and had the respect of the entire faculty. This, of course, was a very big mistake because each time the chairmanship became open, there was intense pressure to put John in it. With fast footwork which Fred Astaire would have envied, John avoided this honor for 16 years, succumbing finally in 1983, a post which John still holds.

Having faculty of John's stature provides many benefits to a university. One of these was a decision by IAEA, Vienna, to invite John to organize the Third Inter-

national Symposium on the Physics and Chemistry of Fission, held in Rochester in August of 1973. This was the first time the conference was held outside of Austria. This was also the first conference in the series where a relatively new area of research was covered, heavy ion reactions. The overall scientific program was outstanding. The heavy ion sessions generated by far the most enthusiastic discussion, as a bellwether of things to come in nuclear science. For me, the most exciting and provocative paper was the discovery of the deep inelastic reaction mechanism by the Orsay group, as reported in a paper by Hanappe, Ngo, Peter and Tamain. John was one of the people quick to recognize the challenge of exploring and understanding this new reaction mechanism, and he and his group spent many years thereafter in making major contributions toward this end, following up also on the fine theoretical ideas of Jacob Bondorf. John's research program has, of course, touched many other areas known to those here.

In honesty, I must say that one issue is always raised when the subject of the Rochester Fission Conference comes up, anywhere in the world. That is the New York state wine which was served at the conference dinner. I won't discuss the nature of those comments because I am a Californian and these comments would be viewed as sour grapes, which is reasonably accurate. I would now ask John, as an honest man, if he hasn't just heard a few comments over the intervening 13 years? Next, I would ask Udo and Hartwig to comment on refreshments planned for this evening.

A long list of outstanding visitors has come to Rochester during John's tenure, and this has helped keep nuclear science an exciting area at the University of Rochester. If the visitor was here on a Saturday or Sunday, he had a good chance of a guided tour to Niagara Falls. John's car practically knew the way unaided. I often feared charges of unfair competition from Gray Line Tours. Not because our guides were better, but because of the unequalled buffets Dolly Huizenga would have waiting on return from the Niagara frontier. In spite of an extremely busy schedule, John and Dolly were always gracious host and hostess in entertaining visitors. I am sure that this is still the case, and would heartily recommend that you all go over for dinner tonight. I am sure that John and Dolly will be pleased to see you one and all.

This rather brings me to the subject of this talk, which is "Nuclear Chemistry at Rochester." This is intimately tied in with the Nuclear Structure Laboratory, and Harry Gove has already covered this aspect of John's years at Rochester. However, I am left with those topics which Harry was too modest to discuss, or those which would be too great an embarrassment. I will not discuss the latter, but only because I am saving my material for Harry's 65th, for which I hope to be invited to give a very long talk.

Around 1964, the Physics Department made their own recruiting coup by enticing Harry away from Chalk River Laboratories to be Professor of Physics and Director of NSRL. This facility was sold to NSF as a state of the art facility for nuclear structure research, a subject which was still popular in the '60s. Harry joined a strong Rochester core of structure-oriented physicists such as Harry Fulbright, Parker Alford, Douglas Cline and others. The directions and future of the laboratory as a center of nuclear structure research seemed clear and bright.

But Harry had a vision; he felt strongly that NSRL was and should be a university facility rather than a physics department facility. He encouraged the Nuclear Chemistry group to use the facility, and provided office and laboratory space. But this band of chemists was interested not in nuclear structure, but in nuclear reactions. If this sacrilege wasn't bad enough, these brigands even did chemistry on their samples after irradiation, and then, of all things, counted them off line.

Needless to say Harry spent a part of his time as a lightning rod running interference for the chemists as he continued to make the full resources of NSRL available to them. Harry once offered the chemists office space in a Van de Graaf terminal which was being proposed because, in Harry's words, "They were already used to working in a hostile environment." But Harry's problems in this regard tended to go away when John arrived on the scene in 1967. John quickly established an outstanding program in structure physics (which was popular in the 1960s) with emphasis on structure in the actinides. He also established strong programs in nuclear reaction studies, and brought with him an internationally respected reputation in nuclear science which complemented the fine reputations of the physics faculty already present at NSRL. A very successful graduate program started quickly under John's careful guidance, establishing Rochester as an outstanding center for graduate studies in nuclear chemistry. As in

the Chemistry Department, people quickly came to appreciate John's interest in the overall good of the NSRL and all of its programs. Indeed as a condition of coming to Rochester, John was able to negotiate a new scattering chamber from the Chemistry Department. This was fortunate for my own group, as Hans Gutbrod and Bill Winn used this chamber for the first comprehensive heavy ion fusion excitation function program. From these data nucleus-nucleus potentials were derived and were compared with several theories available but largely untested. Some years later, John and his collaborators took up and advanced this area considerably, and you'll recognize this as one of many they treated in the area of nuclear reactions.

All work stations have their strengths and weaknesses. So too life at UR had its ups and downs, its frictions and confrontations. It was always reassuring to have constants to depend upon. One of these was the pleasure of having John as a colleague who always remained calm with a positive approach to life and its minor problems, and even-handed in his approach to resolution of problems. John always knew that there had to be a pony in there somewhere. At the same time, John presented, and surely continues to present, an outstanding model for all around him by his own hard work and productivity, and by the high quality of the output. His presence as a colleague was without question one of the major positive points of life in Rochester.

I note that John spent 18 years at Argonne and 19 years at Rochester. I surely hope he will think about 20 years at Livermore, and promise him that no New York wine will cross our frontiers, just the ambrosia produced in California in general, and the Livermore Valley in particular.

I very much appreciate this opportunity to join all in wishing John a happy 65th, and in congratulating him and Dolly on the totally "awesome" achievements which have preceded it, and which we all know will continue for a very long time into the future.

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